

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) An electric device for detecting the presence of a signal of a certain frequency in a line connection (301), ~~characterized in that it comprises~~ comprising:

at least three energy-storing components (302, 303, 304, 305, 501, 502, 503, 504) connected in parallel to said line connection,

- switching means (306) between said energy-storing components and a certain reference for making a connection selectively from each energy-storing component to said reference,

- coupled to said switching means, means (CLK1, CLK2) for controlling said switched means at a predetermined frequency, and

- coupled to said energy-storing components, means (307, 308, 309) for measuring a certain quantity comparable to the energy stored from each energy-storing component.

2. (currently amended) A device according to Claim 1, ~~characterized in that~~ wherein said switching means (306) are arranged to make a connection from each energy-storing component to the reference once during the cycle time of said signal to be detected.

3. (currently amended) A device according to Claim 2,  
~~characterized in that~~ wherein,

said energy-storing components are capacitances (302,  
303, 304, 305), ~~whereby~~

[[ - ]] said means (307, 308, 309) for measuring the  
quantity comparable to the energy stored comprise means (307,  
308) for measuring the voltage difference between capacitances,  
and

[[ - ]] said reference is a certain standard potential.

4. (currently amended) A device according to Claim 3,  
~~characterized in that it comprises~~ comprising four capacitances  
(302, 303, 304, 305) as energy-storing components, ~~whereby~~  
wherein the means for measuring the voltage difference between  
capacitances are arranged to measure the voltage difference  
between the first (302) and third (304) capacitance and between  
the second (303) and fourth (305) capacitance, the order of the  
capacitances being the order in which the switching means are  
arranged to make a connection from each capacitance to the  
standard potential.

5. (currently amended) A device according to Claim 2,  
~~characterized in that~~ wherein,

said energy-storing components are inductances (501,  
502, 503, 504), ~~whereby~~

[[ - ]] said means (307, 308, 309) for measuring the  
quantity comparable to the energy stored comprise means (307,

308) for measuring the current difference between inductances,  
and

[[ - ]] said reference is a certain standard current  
(505).

6. (currently amended) A device according to Claim 1,  
~~characterized in that it also comprises~~ further comprising:

filtering means (506, 507, 508, 509) for filtering said  
quantity comparable to the energy stored before the measurement  
of the quantity.

7. (currently amended) A method for detecting the  
presence of a signal of a certain frequency in a line connection,  
~~characterized in that it comprises~~ comprising steps in which

[[ - ]] the signal is led parallelly to at least three  
energy-storing components connected in parallel (602),

[[ - ]] each energy-storing component is regularly  
connected to a certain reference (603), and

[[ - ]] the value of a certain quantity comparable to the  
energy stored is measured from each energy-storing component  
(604, 605).

8. (currently amended) A method according to Claim 7,  
~~characterized in that~~ wherein each energy-storing component is  
connected to the reference once during the cycle time of the  
signal to be detected.

9. (currently amended) A method according to Claim 8,  
~~characterized in that~~ wherein an even number of energy-storing

components are connected to the reference in turns during the cycle time of the signal to be detected in the order from one N, where N is an even number, and in the measurement of the value of the quantity comparable to the energy stored the values related to the first and the  $(N/2 + 1)^{th}$  component are compared, and similarly the values related to the second and the  $(N/2 + 2)^{th}$  component and so forth up to the  $i^{th}$  and  $(N/2 + i)^{th}$  component are compared, until  $(N/2 + i) = N$ .

10. (currently amended) A method according to Claim 7, ~~characterized in that~~ wherein the value of said quantity comparable to the energy stored is also filtered before it is measured.